AegiX LLC

Trusted autonomy for contested environments

CAPABILITY STATEMENT

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AegiX builds the assurance layer for uncrewed and autonomous systems: methods and software that keep AI decisions, communication links and flight control dependable when adversaries jam, spoof or deceive them. We carry each effort from threat analysis to verified design to flight test on our own UAS platforms and 5G/O-RAN testbeds, so results hold up on real hardware.

CORE COMPETENCIES

Assured Autonomy
Attack-resilient planning and control for autonomous and multi-agent systems; formal verification of decision logic; runtime assurance with verified fallback.

Trustworthy AI at the Edge
Adversarial robustness testing and hardening, confidence-calibrated outputs, AI test and evaluation, and energy-aware ML for SWaP-limited platforms.

Resilient Communications
Anomaly and intrusion detection for 5G and tactical wireless links, formal policy assurance for programmable networks, DDIL-aware strategies.

UAS Assurance
Threat modeling and security assessment of PX4/MAVLink flight stacks, protocol verification, onboard monitoring for spoofing, faults and damage.

DIFFERENTIATORS

- **Real hardware, real links.** Multiple UAS platforms, 5G/O-RAN testbeds, SDR equipment and GPU compute, integrated in one connected environment.
- **One validation pipeline.** Simulation and digital twin, hardware-in-the-loop, then flight demonstration with the same software stack.
- **Full-stack expertise.** Security, formal methods, machine learning and wireless systems under one roof, applied from model to airframe to link.

INFRASTRUCTURE

UAS platforms
Holybro X500 and X650 (Pixhawk 6X/6C), ModalAI VOXL 2 5G drones, Starling 2 Max

5G/O-RAN and wireless
srsRAN + USRP O-RAN 5G testbed, Amarisoft 5G testbed, OpenWiFi testbed

RF and SDR
USRP and BladeRF radios, spectrum analyzers, signal generators

Compute
8-GPU NVIDIA RTX A6000 server, Jetson Orin edge nodes, MEC server with cloud quantum access

Digital twin
QGroundControl, TAT-C satellite simulation, Vision Pro and HoloLens visualization

LEADERSHIP

Dr. Ying Wang, Co-Founder
Associate Professor, Systems Engineering, Stevens Institute of Technology. Assured autonomy, UAV assurance and resilient communications

Dr. Juntao Chen, Co-Founder
Associate Professor, Computer and Information Sciences, Fordham University. Trustworthy AI, autonomous systems security and resilience